

In the Claims:

Please cancel claims 58-75, and add new claims 76-89 as shown in the list of pending claims for the present application as follows:

1-75. (Cancelled)

76. (New) A method of forming a electrically conductive contact structure comprising:

forming a conductive area on a substrate;

depositing a deformable material on the substrate;

forming a recessed region in the deformable material defining a beam comprising:

(i) a base portion electrically coupled to said conductive area of the substrate, (ii) a tip portion displaced away from the substrate and the conductive area, and (iii) a beam portion between said base portion and said tip portion, wherein a length of the beam portion decreases from the base portion to the tip portion;

depositing a conductive material to form the beam in the recessed region of the deformable material; and

removing the deformable material.

77. (New) The method of claim 76, wherein the step of forming the conductive area comprises:

forming a conductive connecting via connecting to internal circuitry in the substrate;

forming a passivation layer on the substrate, said passivation layer having an opening over said via; and

forming conductive material over the passivation layer and the via.

78. (New) The method of claim 76, further comprising:

forming a stop structure on the base portion of the beam.

79. (New) The method of claim 76, wherein the mold forms the tip portion of the beam to be free-standing above the substrate.

80. (New) The method of claim 76, further comprising:

forming a stop structure on the base portion of the beam, wherein the tip portion of the beam is free-standing above the substrate at a height greater than the stop, so that the tip can be moved when contacting a planar structure until the planar structure contacts the stop and the tip does not contact the substrate.

81. (New) The method of claim 76, wherein the recess is formed by pressing a mold into the deformable material.

82. (New) The method of claim 81, wherein the mold comprises a stamp.

83. (New) The method of claim 76, wherein the deformable material is selected from a group consisting of polymethylmethacrylates, polycarbonates, polyurethanes, ABS plastics, photoresists, novolac resins, epoxies, and waxes.

84. (New) A method of forming a probe card comprising:

depositing a layer of deformable material on the substrate, the substrate having conductive areas formed thereon;

forming recessed regions in the deformable material, each region defining a beam comprising: (i) a base portion electrically coupled to one of said conductive areas of the substrate, (ii) a tip portion displaced away from the substrate and the conductive area, and (iii) a beam portion between said base portion and said tip portion, wherein a length of the beam portion decreases from the base portion to the tip portion; and

depositing a conductive material to form the beams in the recessed region of the deformable material.

85. (New) The method of claim 84, further comprising:

forming a stop structure on the base portion of each of the beams, wherein the tip portion of the beam is free-standing above the substrate at a height greater than the stop.

86. (New) The method of claim 84, wherein the recesses are formed by pressing at least stamping tool into the deformable material.

87. (New) The method of claim 84, wherein the step of depositing a conductive material comprises injecting a moldable material into the deformable material.

88. (New) The method of claim 84, wherein the step of depositing the conductive material comprises:

depositing a seed layer of conductive material over said deformable material; and
patterning a layer of masking material over said seed layer, wherein patterns in said masking material correspond to pairs of said beam and base molds, and wherein said contact material is deposited into said molds by depositing said contact material onto said seed layer through said patterns in said masking material.

89. (New) The method of claim 84, further comprising removing said deformable material and said moldable material.